

Dewpoint transmitter to $-45\text{ }^{\circ}\text{C}_{td}$

testo 6740

Measurement of dewpoints in the range from $-45\text{ }^{\circ}\text{C}_{td}$ to $+30\text{ }^{\circ}\text{C}_{td}$

Testo polymer humidity sensor with high accuracy and long-term stability

Analog output 4 to 20 mA (2-wire) and optional alarm plug with 2 integrated switch outputs

Compact design with rotatable housing by 350° for optimum positioning of display

Display with operating menu (optional)



$^{\circ}\text{C}_{td}$

%RH

$^{\circ}\text{C}$

The testo 6740 was especially developed for trace humidity measurement in compressed or dry air (e. g. granulate dryers). Thanks to a special adjustment, optimum accuracy in the trace humidity range has been achieved.

For the display of the relevant trace humidity parameters, a freely scalable analog output is available, optionally with a switch contact plug for MAX monitoring. In addition to this, the testo 6740 stands out thanks to its compact and user-friendly design, such as the rotatability of the housing by 350° for the optimum positioning of the display.

Technical data

Measurement parameters

Dewpoint/trace humidity

Units	%RH, °C
Calculated parameters	°C _{td} , °F _{td} , °CtA, °FtA, ppmv, mg/m ³ , °F
Measuring range	-45 °C _{td} to +30 °C _{td}
Measurement uncertainty	±1 K at 0 °C _{td} (+32 °F _{td}) ±3 K at -20 °C _{td} (-4 °F _{td}) ±4 K at -40 °C _{td} (-40 °F _{td})
Sensor	Polymer humidity sensor with protocolized trace humidity adjustment at -40 °C _{td} (-40 °F _{td})

Normed atmospheric dewpoint

Measuring range	-70 to -15 °CtdA (-112 to -5 °FtdA) (at 30 bar rel./ 435 psi) -54 to +10 °CtdA (-94 to +50 °FtdA) (at 3 bar rel./43.5 psi) -45 to +30° CtdA (-76 to +86 °FtdA) (at 0 bar rel./0 psi)
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Temperature

Measuring range	0 to 50 °C (32 to +122 °F)
Measurement uncertainty	±0,5K (0 to 50 °C/32 to 122 °F)
Sensor	NTC

Inputs and outputs

Analog outputs

Current/accuracy	4 to 20 mA (2-wire) / ±40 µA
Measurement rate	2 s
Resolution	12 bit
load	12 V DC: max. 100 Ω, 24 V DC: max. 650 Ω, 30 V DC: 950 Ω
Scaling	Freely scalable via display buttons

Switch outputs (opt. alarm plug, 0554 3302)

Contacts	2 closer contacts, pot.-free, max. 30V/0.5A
Switch thresholds	Standard 6 °C _{td} /12 °C _{td} , freely programmable with display

Supply

Voltage supply	24 V DC (12 to 30 V DC permitted); with alarm plug (0554 3302) 20 to 28 V DC
Current consumption	21 mA (without alarm plug) 65 mA (with alarm plug)

General technical data

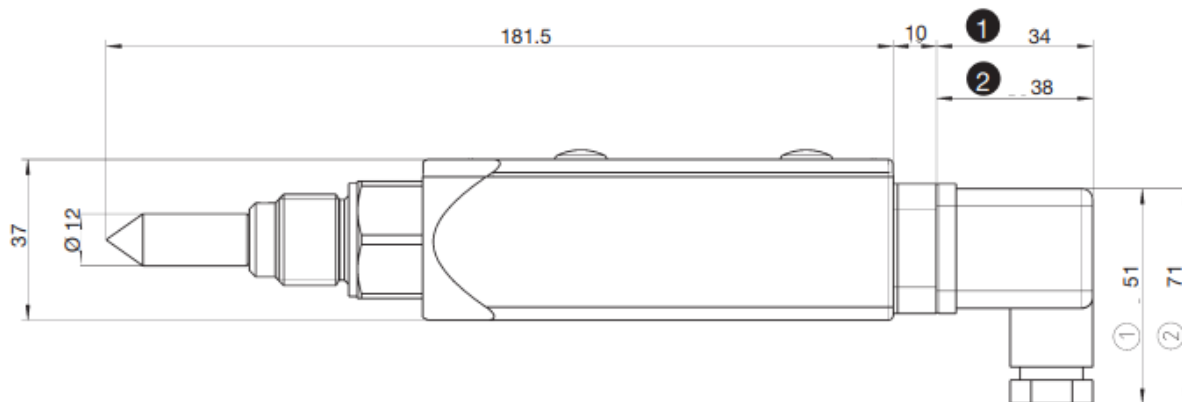
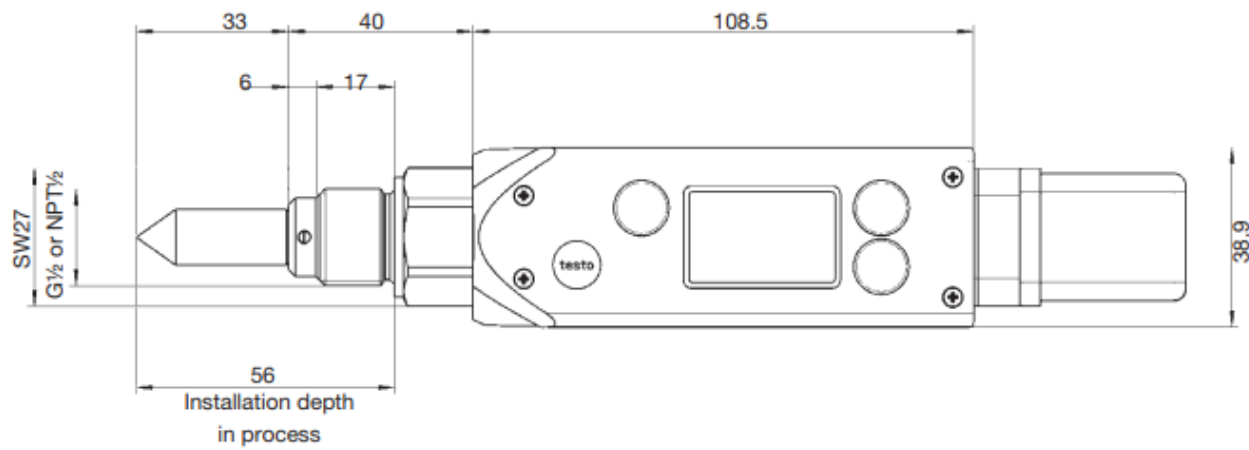
Design

Material/colour	Plastic, polyacrylamide	
Dimensions	199.5 x 37 x 37 mm (with standard plug) 203.5 x 37 x 37 mm (with plug 0554 3302)	
Weight	Approx. 300 g	
Display		
Display	High intensity 7-segment display	
Resolution	°C: 0.1 RH: 0.1 °C _{td} : 0.1 °F _{td} : 0.1 °CtA: 0.1 °FtA: 0.1	ppmv: 1 / 10 / 100 (dep. on meas. value) mg/m ³ : 1 / 10 / 100 (dep. on meas. value) °F: 0.1
Rotatability (display positioning)	350° around housing axis	
Installation		
Thread / process connection	G½ thread or NPT½" thread	
Miscellaneous		
Protection class	IP65 (with plug attached and wire connected)	
EMC	According to guideline 89/336 EEC	

Operating conditions

Operating temperature (housing)	-20 to +70 °C (+4 to +158 °F)
Storage temperature	-40 to +80 °C (-40 to +176 °F)
Process pressure	max. 50 bar (725 psi)

Technical drawings



- ① Standard connection plug (4 to 20 mA – 2-wire)
- ② Switch contact plug: cable connection plug for supply/ analog output (4 to 20 mA – 2-wire)

Connection plan / Ordering example



Order data testo 6740

Part no.

Cc	Basic instrument (incl. plug for analog signal output)	
Wi	testo 6741, G $\frac{1}{2}$ thread, without display	0555 6741
	testo 6742, NPT $\frac{1}{2}$ thread, without display	0555 6742
	testo 6743, G $\frac{1}{2}$ thread, with display	0555 6743
	testo 6744, NPT $\frac{1}{2}$ " thread, with display	0555 6744



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- 1: _____
- 2: - (4 to 20 mA)
- 3: Not used
- 4: Measurement earth (cable shield)



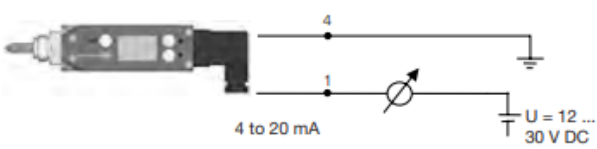
Pin plug terminals	
1: (A)	I + (4 to 20 mA)
2: (B)	I - (4 to 20 mA)
3:	(connected with relay board ex-works)
⏏:	Connect shield

Relay board terminals	
1:	20 to 28 V DC (A)
2:	LS +
3:	LS -
4:	US +
5:	US - (B)
6:	0 V DC

The supply connections must be galvanically connected, i. e. make connection (A)-(A) or (B)-(B)!

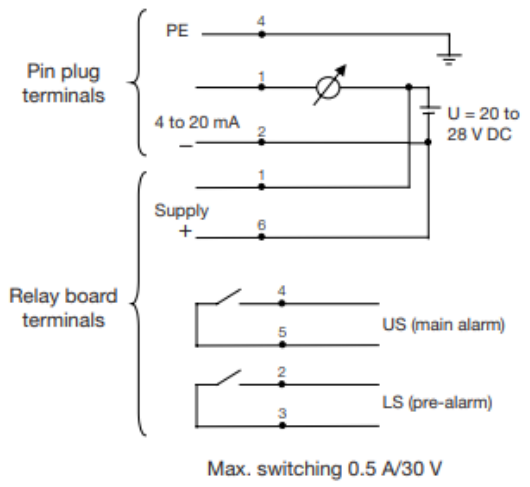
Standard plug

This version provides a 4 to 20 mA analog output in 2-wire technology.



Switch contact plug (0554 3302)

4 to 20 mA, 2-wire as well as 2 potential-free switch contacts + 2 LED



Subject to change without notice.

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